CALENDAR

Wednesday, January 20, 1988. 7:00 pm. General meeting. Subject: File transfer between storage devices on Sinclair computers. This is a catch-all title that will include some interesting work with the TS2068.

Saturday, January 16, 1988. 11:00 am to 4:00 pm. QL sub-group meets at John Mitchell's home in Westwood, Visitors welcome, but call John for directions to let him know you are coming and bring some food. 326-5420.

Future event: Telecommunications with Sinclair computers. Demonstrations of BBSes and various terminal programs for going on-line with your Sinclair. This event will be scheduled when we can find a location with a telephone jack to meet. Call Peter Hale 723-8545 if you know a place. Schedule for the third Wednesday of a month.

PHONE DIRECTORY

General Questions	John Kemeny 263-3347
Machine Language	John Kemeny 263-3347
Hardware Library	Lee Ball 492-8662
Software Library	???
Editor (pro tem)	Peter Hale 723-8545
QL-sub group	Peter Hale 723-8545
Plexi-BBS	646-7651
Sysop: Bob Cutter	646-4425
TIMEWARP	481-0555
Sysop: Jim Rodlin	481-2155
	Will Stackman 547-0655

EDITORIAL

1988 will be the year Sir Clive turns the lap top computer market upside down with his new Z88 based on the Z80 microprocessor. - Available for under $400.00.

1988 will also be a year of renewal for the Sinclair Timex Newsletter. In the past year the QL sub-group has grown from 5 to 22 out of the 168 BCS members checking off Sinclair/Timex.

(More than Victor's 106, less than Heath/Zenith's 212, and a long way from IBM's 14785.)

The renewed newsletter grows out of QL sub-group activities, so there is focus on QL-ablia. That is strictly a result of current active interest, but we support all Sinclair computers. We solicit material from everyone.

Note our own Calendar elsewhere for an example of the range of activities we will be having.

Of particular interest we are pleased to announce that there are two Sinclair BBS's in the Boston area. Both will soon be operating at 1200 baud, as well as 300 baud.

I will be editor pro tem, a role from my stint as 'editor' for the QL sub-group newsletter.

Please don't hesitate to contact me at (617) 723-8545 with your ideas. Send contributions to me at Box 8763, Boston, MA 02114.

Peter Hale

T/S 1000 CORNER

I wrote this program one day while trying to figure out how to read the TS1000 display file.

```
10 REM MINES by Jim Rodlin
20 LET x=15
30 LET y=10
40 LET sc=PEEK 16396 + 256*
   PEEK 16397
50 PRINT AT 21,RND*31;CHR$ 4; AT
  21,RND*31;CHR$ 4; AT 21,31;" "
60 LET y=y+(1 AND INKEY$ = "6")
  + (-1 AND INKEY$ = "7")
70 LET x=x+(1 AND INKEY$ = "5")
  + (-1 AND INKEY$ = "8")
80 IF PEEK (SC+33*(y)+x+1) = 4
  THEN GOTO 120
90 PRINT AT y,x;"+"
100 SCROLL
110 GOTO 50
120 FOR Z = 1 TO 5
130 PRINT AT y,x;"*"; AT y,x;
   "[INVERSE ASTERISK]"
140 NEXT z
140 PRINT AT y,x;CHR$ 8
```

Notes: Line 130: Use SHIFT-9 "*" SHIFT-9 for inverse asterisk.

The point of this program is to figure out what's on the screen at a particular print position. It's a game of driving a jeep through a minefield. Use arrow keys to avoid the mines. If you hit a mine, the jeep blows up and the game stops.

Most computers (including the 2068) store display files as 24 rows each with an even number of characters. It is more complicated [Simpler? Ed.] in the T/S 1000 and ZX-81. To conserve memory, the engineers at Sinclair Research developed an ingenious method of storing the display file: a blank screen consists of 25 ENTERS. What a T/S 2068 takes over 6 kilobytes to do is done on a T/S 1000 with only 25 bytes! The first byte in the display file is an ENTER and each row of the TS1000's display consists of the characters in that row, plus ENTER.

(This data storage method is only used when there is less than about 3 1/4 K of free RAM. With expanded memory, the screen is stored conventionally, with 32 bytes + ENTER for each line.)

However, this creates a nightmare for the programmer who wants to read the display but does not know what is on the screen! Since the contents of the computer's memory are constantly changing, the display file moves around a lot. This is because the display file is stored above a stored program in memory. When program lines are added or deleted, the display file is shifted up or down in RAM to fill in the gaps. (This is why the screen clears each time you enter a command).

A system variable called "D_FILE" keeps track of the display file's location. The formula PEEK 16396 + 256* PEEK 16397 returns the start of the display file. In line 40, "SC" holds this value.

Line 50 prints a space at the right edge of the screen every time. In an unexpanded machine this is needed to ensure that each line has 32 characters.

Line 40 finds the beginning of D_FILE. Each line has 32 bytes plus ENTER, so for each row down the screen add 33. To look at the Nth column of that row, look forward N bytes plus one (the first byte of D_FILE is always ENTER). PEEK that location to get the character code for the character PRINTed there. The character at 12,14 will be: CHR$(PEEK D_FILE+33*12+14+1)

The magic formula is in line 80 of the program. When it finds a mine printed in this location, it means you've run over it and the game ends. Have fun!

- Jim Rodlin

SUPPLIER NOTES

Henry April, familiar to all as the owner of EZ-Key, has retired from national retailing. HOWEVER, Henry's contacts are as good as ever to help new customers and old with hardware and software for various Sinclair computers.

Henry has in stock some items for all Sinclair computers. Bits of software and various books, and items of hardware. Henry's number is 773-9520 in Wollaston.

Don't forget that Curry Computer Box 5607, Glendale, AZ 85312-5607 (602) 978-2902 is a well stocked supplier to all Sinclair computer lines as well as a wide range of software and hardware for the QL.

For all who have been waiting for the price of a QL to come down, BE IT KNOWN that you can now get a complete QL for only $99.00. A+ Computer Response, P.O. 220, Centre St., Sullivan, NH 03445. Phone: (603) 847-9561 is closest and worth the drive to meet the folks.

Bob Dyl, who many of you remember as the owner of English Micro-Connections is back in business providing supplies and accessories to computer users. Bob trades as Disks 'N' Things, 15 Kilburn Ct, Newport, RI 02840. Phone: (403) 849-3805.

Although freight from Newport may make some prices uncompetitive with your favorite local supplier on the heavier items, Bob has very good prices on high quality discs and can supply low cost replacement ribbons for virtually any printer made. You can also choose colors for only a dollar a ribbon more. Write for a catalogue.

Telecommunications and the Timex/Sinclair Computer

It is often difficult for beginners to find help with Telecommunications with Timex/Sinclair computers. This column may ease the situation a bit.

Besides a computer, you need a modem and the software called a terminal program. The terminal program turns your smart computer into a 'dumb' terminal. The modem allows communication over telephone lines to a smart computer running at the other end. You transfer computing power to the other computer.

The T/S 2068, T/S 1000, and ZX-81 use the same modem. Made by Westridge Communications, the 2050 modem runs at 300 baud (about 30 chars per second) and costs @ $40.00. It plugs in the back of the computer and a cable connects to your telephone jack.

Two terminal programs are available. One, called **MTERM**, costs about $15.00 and is very easy to use. It is available for the T/S 1000 or the T/S 2068. A more versatile (but more expensive) one (for the T/S 2068 or Spectrum only) is Spectera-64. It has 64 column display, supports Xmodem file transfers and is generally a better buy.

Two dealers that carry the 2050 modems and software are:

RMO Enterprises
1419 ½ Seventh St.
Oregon City, OR 97045
(503) 655-7484
BBS (503) 656-8072

G & C Computer Products
P.O. Box 2186
Inglewood, CA 90305
(213) 759-7406
BBS (213) 329-3922

The Sinclair QL can use any 'standard' Hayes compatible 300/1200 baud modem @ $90.00 and up. A device called a 'Modaptor' is needed to run at 300 baud (many BBSes can only run at the slower 300 baud rate). (See MIKE_TERM for the QL, elsewhere in this newsletter. Ed.) There are several terminal programs out for the QL, the latest of which is **Q-Link**. (Reviews of this and others, please. Ed.) These and other QL products are carried by:

SHARP'S Inc.
Route 10, BOX 459
Mechanicsville, VA 23111
(804) 746-1664 (9am-4pm)
(804) 730-9697 (6pm-10pm EST)

For a long time there was no one source of information for the T/S telecommunications user. Then Pete Fischer and Steve Ishii came up with The Guide to Timex/Sinclair Telecommunications. This 100 page booklet is the single most comprehensive source of information for the T/S modem user (ZX-81 to QL). $7.50 ppd from Pete Fischer, P.O. BOX 2002, Tempe, AZ 85281.

The most common use of the modem is to call the numerous free **Bulletin Board Systems**, or **BBSes**, that are scattered across the country. In most cases, a BBS is someone's personal computer with special software hooked up to a modem so people can call it and leave messages for each other. Some BBSes have software that let you download to your computer while you're online. Boards provide a place for T/S and QL enthusiasts from all over the country to meet and exchange ideas, news, and software for their favorite computers.

For local support, there are two T/S BBSes in Massachusetts. Both are running on T/S 2068 computers 24 hours a day. The first is called **Flexi-BBS** at (617) 648-7651. The other is **TIMEWARP** at (617) 481-0555. Give them both a call!

The next article will go more deeply into the how-to's of telecommunications, with some more details about available hardware and software.

- Jim Rodlin

(Jim Rodlin is a recent convert to Sinclair computing. Mostly he uses the 2068 but is exploring the QL. Jim is Sysop of TIMEQRP, a BBS running on a T/S 2068 at (617) 481-0555. Jim is also responsible for several articles in this newsletter. Ed.)

SOFTWARE LIBRARY

Commencing with the BCS fiscal year beginning April 1, 1988, the S/TUG will offer public domain software at a price of $5.00 per microcartridge, disk or cassette.

Watch for a catalogue of introductory software in the upcoming March issue of this newsletter.

We need members to contribute interesting utilities as well as more extensive programs. Existing copies of public domain software may also be included.

See the article elsewhere on TELECOMMUNICATIONS.

2068 WINDOWS

As computer hardware technology progressed, software improved as well, although at a slower pace. Program front-ends (the program's display) have become more sophisticated, evolving from simple prompts and menus, to pull-down menus, icons, and now split screens and windows. Today, it is not uncommon to see computer displays with multiple, independant, scrolling windows running different programs in each. While the unexpanded T/S 2068 has insufficient memory to support the complicated windowing and graphics you see on the newest computers, it is capable of some very impressive displays.

Did you know that the 2068 is capable of 80 column displays? Or dual screen mode? These are advanced video modes of the T/S 2068 which we will explore in future articles.

The 2068 is quite capable of manipulating windows, too.

Windows may be implemented in several ways but there is one requirement for any windowing system: A window must preserve any underlying text when it opens. The simplest way is to copy the entire display file to a place in memory before it is opened. After the window is ready to be closed, you can copy the stored data back to the display file and restore the screen. This is the method that the program below uses. In fact, the key to the whole program is in the M/C routine DATA statement in line 5. The disassembly of the routine is in Figure 1.

The instruction "LDIR" does the actual copying. The BC register holds the number of bytes to move (1800 hex = 6144, which is the number of bytes in D_FILE, the area of RAM where the screen is kept). DE holds the destination address (E757 hex = 59223, the first byte after the end of the code! This is where we copy the screen to), and HL points to the start of D_FILE. So LDIR copies BC bytes from HL to DE. RET sends us back to basic.

The second part, beginning at 59211, does the same thing - but in reverse order. The data that we saved to E757 the first time is now copied back into the display file (You may have noticed that the addresses in DE and HL were switched).

If you don't understand any of this, don't worry. It is not necessary to know how the routine works in order to use it! All you need to know is

Address	HEX Addr	Bytes	Mnemonics	Notes
59199	E73F	010018	LD BC, 1800	How many bytes to copy
59202	E742	1157E7	LD DE, E757	E757 = destination
59205	E745	210040	LD HL, 4000	4000 = start of D_FILE
59208	E748	EDB0	LDIR	Copy from HL to DE
59210	E74A	C9	RET	RETurn to basic
59211	E74B	010018	LD BC, 1800	# Bytes to copy
59214	E74E	110040	LD DE, 4000	Destination = screen
59217	E751	2157E7	LD HL, E757	Where scr is stored
59220	E754	EDB0	LDIR	Move bytes back again
59222	E756	C9	RET	RETurn to basic

-Note: All numbers are hexadecimal except first column-

Figure 1

```
  1 REM      2068 WINDOWS  by Paul Bingham
  2 REM      From SYNCWARE NEWS 4:2
  4 REM The program shows three examples of windows.  The key
routine is the GOSUB 9000.  E.G. line 120 gives the width, depth,
row and column of the window.  Any text we want in the window can
be done in BASIC as usual as in lines 140, 180 and 220.
  5 CLEAR 59198: DIM w$(3,11): LET a$="WINDOW": LET b$="press":
    LET store=59199: LET renew=59211: LET lower=23659:
    FOR t=store TO 59222: READ f: POKE t,f: NEXT t
  6 DATA 1,0,24,17,87,231,33,0,64,237,176,201,1,0,24,17,0,64,33,
    87,231,237,176,201: REM (sets up LDIR code)
 10 FOR t=65368 TO 65431: READ a: POKE t,a: NEXT t
 11 DATA 15,8,8,8,232,232,232,232,255,0,0,0,0,0,0,0,255,1,1,1,1,
    1,1,1,232,232,232,232,232,232,232,232,1,1,1,1,1,1,1,1,232,
    232,232,239,224,255,255,255,0,0,0,255,0,255,255,255,1,1,1,
    255,0,224,224,224
100 POKE lower,0: FOR f=1 TO 76: PRINT "1234567890";: NEXT f:
    PRINT "12345678": POKE lower,2
110 LET k=USR store
120 LET n=1: LET w$(n)="11,12,02,03": GO SUB 9000
140 PRINT AT 4,6;a$;AT 6,8;"#1";AT 11,5;b$;"2"
150 IF INKEY$<>"2" THEN GO TO 150
160 LET k=USR renew
170 LET n=2: LET w$(n)="13,20,02,17": GO SUB 9000
180 PRINT AT 5,21;a$;AT 7,23;"#2";AT 19,20;b$;"3"
190 IF INKEY$<>"3" THEN GO TO 190
200 LET k=USR renew
210 LET n=3: LET w$(n)="10,08,16,04": GO SUB 9000
220 POKE lower,0: PRINT AT 17,6;a$;AT 19,8;"#3";AT 22,6;
b$;"E": POKE lower,2
230 IF INKEY$<>"E" THEN GO TO 230
240 CLS: PRINT AT 8,6;"";: FOR t=1 TO 20: READ a:
    PRINT CHR$ a;: NEXT t
245 DATA 77,111,118,101,32,111,118,101,114,32,77,65,67,105,110,
    116,111,115,104,33
250 GO TO 9999
9000 LET w=VAL w$(n, TO 2): LET d=VAL w$(n, 4 TO 5):
     LET r=VAL w$(n, 7 TO 8): LET c=VAL w$(n, 10 TO 11)
9010 IF r+d>24 OR c+w>32 THEN PRINT AT 21,10;
     "Window's too big!": STOP
9020 IF r+d>22 THEN LET low=0: let r3=24-r-d: GO TO 9040
9030 LET low=2: LET r3=2
9040 LET rd=r+d-2: LET cw=c+w-3
9050 POKE lower,low: PRINT AT r,c;CHR$ 144;: FOR t=c TO cw:
     PRINT CHR$ 145;: NEXT t: PRINT CHR$ 146
9060 FOR t=r+1 TO rd: PRINT AT t,c;CHR$ 147;
9070 FOR f=c TO cw: PRINT " ";: NEXT f: PRINT CHR$ 148;: NEXT t
9080 IF r3=0 THEN OVER 1: FOR t=1 to 32-w: PRINT " ";: NEXT t:
     OVER 0: PRINT CHR$ 149;: FOR t=c TO cw: PRINT CHR$ 150;:
     NEXT t: PRINT CHR$ 151: POKE lower,2: RETURN
9090 PRINT AT rd+1,c;CHR$ 149;: FOR t=c TO cw: PRINT CHR$ 150;:
     NEXT t: PRINT CHR$ 151: POKE lower,2: RETURN
```

Listing 1

(cont)

that RANDOMIZE USR 59199 will save the current screen, and RANDOMIZE USR 59211 will copy it back. Try this: LIST, RANDOMIZE USR 59199, CLS, then RANDOMIZE USR 59211.

In the listing, STORE is the address of the first routine, RENEW is the second, and LOWER is a system variable that controls the lower part of the screen (the 2068's edit line). Line 10 redefines some UDG characters for the window borders.

W$ holds the window width, depth, row, and column position for a window. GOSUB 9000 checks that your window will fit on the screen, blanks out that part of the screen, prints a nice looking border around the window, and returns. At this point, your program can print what it wants to in the window; however, it is up to the programmer to keep the text within the borders of the window by printing at the right locations!

When you are through with a window, RANDOMIZE USR renew will recall the original screen.

In the next issue, we will take a look at what is required to implement a more sophisticated windowing utility that can handle wraparound, scrolling within a window, and multiple windows.

-Jim Rodlin

Comments? Questions?
Write to me! My address is
66 Chandler Street
Marlboro, MA 01752.

TELECOMMUNICATIONS on the QL

The QL, for all its power and versatility, is limited in telecommunicating at 300 baud without a hardware link between the serial port and the modem.

Mike Mitchell submitted the following. It will get you on line at 300 (or even 1200) baud with a Hayes compatible modem.

```
1 REMark    300/1200 baud terminal
2 REMark          MIKE_TERM
3 REMark        developed by
4 REMark      MICHAEL MITCHELL
5 REMark   attribution requested
6 REMark Sinclair/Timex User Group
7 REMark  Boston Computer Society
100 WINDOW 465,204,6,0
105 BORDER 1,0,7: LB=127
110 CLS: POKE 163976,255: CLS#0
120 PRINT#0,,"Choose Baud: H=1200,
     L=300"
130  IF INKEY$(-1)=='h' THEN BAUD
     1200: ELSE BAUD 300
140 CLS#0 : OPEN #5,ser2i
150 PRINT#0,,"F5=quit","ALT^C=^C",
     "↑=BEL"
160 REPeat term
170 terminal:PRINT#0,,'Exit?(y/n)'
180  IF INKEY$(-1)=='y' THEN EXIT
     term
190 END REPeat term
200 CLOSE#5
205 PRINT#0,,"Re-run/Quit? (r/q)"
210 IF INKEY$(-1)=="r" THEN RUN:
     ELSE  STOP
220 DEFine PROCedure terminal
230  REPeat key_loop
240   a=CODE(INKEY$(#5,0))&&LB
250    IF a=13 THEN PRINT
260    IF a=7 THEN BEEP 2000,15
270    IF a>31 THEN PRINT CHR$(a);
280   b=CODE(INKEY$)
290    IF b=248 THEN EXIT key_loop
300    IF b=255 THEN b=0
310    IF b=0 THEN NEXT key_loop
320    IF b=10 THEN b=13
330    IF b=208 THEN b=7
340   PRINT #5,CHR$(b);
350  END REPeat key_loop
360  RETurn
370 END DEFine terminal
```

Save as MIKE_TERM_bas

This is not bare-bones program. t has a bell (but no whistles).

Also, it gets around a problem or QL's communicating with many Sinclair BBS's that call for CTRL : to end a message.

The QL's operating system traps CTRL C. MIKE_TERM uses ALT CTRL C to send a CTRL C. See line 300.

After keying in the program, load and run it with the modem attached to ser2. Choose a baud rate and then go on-line. Now get the modem's attention by starting any command with AT.

Send any improvements and/or facilities for up-loading or down-loading files to the Editor.

MIKE_TERM works even better when compiled.

Try it out on Bob Cutter's Flexi_BBS at 648-7651, Arlington, or on Jim Rodlin's TIME_WARP at 481-0555 in Marlboro.

PSION PRODUCTIVITY TIPS

This column will carry tips on making your life easier with the Psion programs that come with a QL computer. After all productivity is supposed to be what a computer is all about.

Tom BENT, CATS, suggests not printing letters one by one when typing a series of letters. Instead, 'print' the letter to file. (F3, P, <ENTER>, <ENTER>) followed by the name of the letter, instead of the default offered by Quill. All printer control codes are now in the file.

At session's end, in SuperBASIC, use a TOOLKIT II extension. With the printer_dat in drive 1, type either SPL mdv2_xyz_lis (a series of which can be easily chained) or WCOPY mdv2_,ser1. Either way can set the QL to print a series of files while you get on about (the rest of) your life.

Peter Hale, BCS, suggests making custom labels, from return addresses to:

WARNING
MAGNETIC DATA MEDIA
DO NOT X_RAY OR MAGNETISE

are useful. Five hundred 15/16" labels cost under a 1/2¢ each.

In a Quill document set the design to Bottom 0, Upper 0, Page 0 and set the Footer to none. Create a six line label (blank lines included) and copy it ten times (11 in all) for a 66 line document. Print as many sets as needed in the short term and save as a _doc file for future use.

For a quick and dirty address book use ABACUS. Reserve a column for each category (first_name, last_name, phone, Christmas card, etc.).

Enter information without regard for alpha order, one row to a listing. Now use the command F3, O(rder) on the column with the last name. Print it out.

To revise a listing, press F5, last.jones to go directly to the row with your friend John Jones.

Are you constantly turning off your printer to form-feed the last page of your Quill document? Is your printer_dat file set to have FF as the postamble code?

BOOK REVIEW

Taking the Quantum Leap by Mike de Sosa. Published by Time Designs Magazine Co. $26.00 ppd.

Mike is a regular contributor on subjects QL to magazines. He has a love affair with this computer.

That love affair does not extend to the QL User Guide, which falls short of what enthusiasts have expected from Sinclair manuals.

Taking the Quantum Leap is a professional trainer's rewrite of the User Guide the way it should have been done the first time.

Where TtQL succeeds it suceeds admirably. It is well written and shows the professionalism of an experienced trainer. The writing style is easier to follow and program examples are a lot more versatile and instructive than many in the QLUG.

The book cross-references the QLUG AND has an index, a feature sadly lacking in the QLUG.

Each PSION application program is covered as is SuperBASIC. The keywords in SuperBasic have their own Appendix and wisely have similar keywords grouped together. The book would have been even better if the pattern had been consistently followed.

TtQL is not without its failings. Reviews elsewhere have spoken glowingly of this book, but unfortunately it has many of the same failings as the QLUG, primarily in its lack of thoroughness, but also with its share of typos and errors.

There are good tips, but some are plain wrong. Page 51 implies that you can save a Quill or Abacus file with an underscore in the middle of the name. It just doesn't work.

One helpful tip with Archive is to export files to QLWP by using 'text' instead of 'quill', a point not covered in the QLUG.

Where TtQL really shines is its tables that lay out commands and functions in a readily viewed form and in examples and tips for getting immediate productivity gains from your Psion programs.

Setting up your printer p160-162 has really helpful tips, but the section on using translate codes to access type face options seems like it left out a page of explanation.

Taking the Quantum Leap should have a second edition with about 50 more pages. The chapter on New Developments should either be more expansive on its software reviews and descriptions or do away with many of them. There is a sense that some descriptions were written from advertisements.

An Appendix of useful Pokes would be helpful, and alone worth the price of the book. More examples in the SuperBASIC keywords Appendix wouldn't hurt.

As a supplement to QLUG, TtQL is terrific. But it is not a replacement nor does it try to be. Keep that in mind and you won't be disappointed. And if the clear writing style helps you understand only a few new aspects of your computer, you will, as I did, cheer Mike's book and give thanks in your nightly prayers for his hard work.

CLOUDS ON A QL

Al Boehm uses his QL at the Air Force Geophysics Laboratory and takes it on trips to demonstrate the results of his work. He submitted this delightful Super-BASIC program to display mean cloud contours.

It is a good demonstration of how SuperBASIC passes parameters and how to use SCALE coordinates. I was taken with Al's use of variables to set WINDOW's.

```
1 REMark test of contour using a
  math function.
2 REMark   20 Dec 1987
3 REMark   by A. Boehm
100 nnx=6:nny=6:DIM z(nnx,nny)
110  FOR i=0 TO nnx
120  FOR j=0 TO nny
130  z(i,j)=10*SIN(i/10*2*PI+
     j/6*2*PI)+ i*j/2
135 REMark also try z(i,j)=10*RND
140  NEXT j
150  NEXT i
160 contour z,nnx,nny
170 STOP
180 DEFine PROC contour(z,nx,ny)
185 REMark Prints banded contours
 of the values in z.  Use MODE 8
 for best results.  A contour
 interval of 1 is assumed.  For
 other contour intervals, let
 z(i,j)=z(i,j)/contour_interval
 before calling contour.
190 across=511:down=255:left=0:
    top=0
200 WINDOW across,down,left,top
210 PAPER 0:CLS
220 SCALE ny,0,0
225 dx=across*.628/down*ny/nx
230 yline=ny/down
240 FOR j=0 TO ny-1
250 x1=0:x2=dx
260 FOR i=0 TO nx-1
270 con_a_block z(i,j),z(i+1,j),
    z(i,j+1),z(i+1,j+1),j
280 x1=x2:x2=x2+dx
290 NEXT i
300 NEXT j
310 RETurn
320 END DEFine contour
330 DEFine PROCedure con_a_block
      (a,b,c,d,ystart)
340 LOCal dz,fx,x,i,j
350 aa=a:bb=b
360 da=yline*(c-a)
370 db=yline*(d-b)
380 FOR y=ystart TO ystart+1 STEP
     yline
390 POINT x1,y
400 i=INT(aa):j=INT(bb)
410 INK i MOD 8
420 IF i=j THEN LINE TO x2,y:
    GO TO 530
430 dz=ABS(bb-aa):n=ABS(j-i)
440 fx=aa-i:IF i<j THEN fx=1-fx
450 IF n=1 THEN LINE_R TO
    fx*dx/dz,0: GO TO 520
460 fy=b-j:IF j>1 THEN up=1:
     ELSE up=-1:fy=1-fy
470 x=dx/dz
480 LINE_R TO fx*x,0
490 FOR k=i+up TO j-up STEP up
500 INK k MOD 8:LINE_R TO x,0
510 END FOR k
520 INK j MOD 8:LINE TO x2,y
530 aa=aa+da:bb=bb+db
540 END FOR y
550 END DEFine con_a_block
```

Save this as contour_it_bas.

POKING A QL

Before loading an executable program. POKE 98403.128.

Although the screen goes nasty. and you lose the cursor. Exec the program. Watch the screen.

Still without a cursor? POKE 98403.0.

Keyboard too slow on your QL? POKE_W 163980.12: POKE_W 163982.0

This can be included as a line in your Quill boot. If you are a rapid typist. If 12 is too much. try a lower number in the first POKE.

For more POKE's. try the QDOS Companion. by Andrew Pennell. and published by Sunshine Press.

QUANTA

Most QL owners are now aware of QUANTA (QL Users And Tinkerers Association) which publishes a monthly newsletter of software and hardware reviews and worldwide doings with the QL.

Annual membership with airmail delivery is £17 from:

The Secretary
Brian Paine
24 Oxford St.
Stony Stratford, Milton Keynes
United Kingdom, MK11 1JU

Phone: 011 44 908 564271

You can charge to VISA or MC.

Membership entitles you to the library of software for the QL which currently runs 350 programs on 16 DS/QD disks and covers everything from desktop publishing to dozens of games and 157 utilities.

Some programs have royalty fees ranging up to $12.00 but are otherwise at-cost for the discs.

The most recent library update has arrived in the States and can be purchased from Tom Bent, the QUANTA sub-librarian here. Tom is at 9016 Flicker Pl., Columbia, MD 21045. Phone: (301) 730-7187.

THE RETURN OF 'VAL'

One of Sinclair Basics' mor valuable contributions to th BASIC language were the keyword VAL and VAL$. These permitte formulae to be entered as tex strings and then be evaluated. N other BASIC was so cooperative.

QL SuperBASIC instituted feature called coercion tha meant that if a$='4' and b=2, on could print a$*b and get 8.

In theory coercion did away wit the need for VAL. However coercion would terminate at th first sign of a non-numeric character. Thus, if a$='4*2' an b=3, the result of a$+b would b 7 and not 11.

Now comes VAL for the QL!!

The most recent update of th QUANTA library includes a serie of files and extensions that ad VAL to your repetoire of Super BASIC keywords and allow it to b included in compiled programs.

For those who need it, it' worth the membership in QUANT/ Available on DISK 15, for whic there is a small royalty charge Contact Tom Bent, (301-731-7187) the American sub-Librarian fc QUANTA, for more information.

NEWSLETTER FEATURES

Do you want any special features to this newsletter?

The following are suggested.

WANT ADS - to buy or sell surplus software/hardware. Up to 6 lines free to BCS member with photocopy of current BCS membership card; $3.00 to others.

THE DEDICATED COMPUTER. Old microprocessors never die; they become dedicated computers. Many have used the ZX-81/TS-1000 as a dedicated interface with the real world. The column will solicit how-to articles.

SINCLAIR PROFILES. Do you or someone you know use a Sinclair computer in a novel, interesting or profitable way for business or pleasure? Write a profile for this column. (A PROFILE, not a biography.) Get to it or the editor may do it on you!

Contact the editor, me, Peter Hale through the BCS Office mail system (slow) or my Box 8763, Boston, MA 02114 Phone (617) 723-8545 (better).

TABLE OF CONTENTS

	Page
Calendar	1
Phone Directory	1
Editorial	1
T/S Crner	2
Supplier Notes	3
Telecommunications and the Timex/Sinclair Computer	3
SOFTWARE Library	4
2068 Windows	5-7
Telecommunications on the QL	7
PSION Productivity Tips	8
Book Review (Taking the Quantum Leap)	9
Clouds on a QL	10
POKING a QL	10
QUANTA	11
The Return of 'VAL'	11
Newsletter Peatures	12
Hardware Tip for QL	12
Calendar	14

CALENDAR CHANGES

THE QL SUB-GROUP MEETS ON JANUARY 16. 1988.

THE LISTING IN THE BCS CALENDAR IS WRONG.

SEE PAGE 1